

11/20/90

UNESCO Workshop  
on*"Lipid-soluble Antioxidants in Biochemistry of  
Nutrition and Environmental Health"*

Organized by UNESCO Global Network for Molecular and Cell Biology  
(NMCB) and Confederation of Scientific and Technological Associations of  
Malaysia (COSTAM)

Organizing Committee:

L. Packer (Berkeley)  
A. Azzi (Bern)  
K. Yagi (Nagoya)  
A. Ong (Kuala Lumpur)

Dates:

September 20-21, 1991  
University Science Malaysia (USM)  
Penang, Malaysia

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Corresponding Organizers

For information on registration and  
accommodations, write to  
Chair, Local Organizing Committee:

*Correspondence should be addressed to:*

Dr. Mohinder Singh  
Vice President of COSTAM  
c/o Ministry of Science,  
Technology and Environment  
Wisma Sime Darby  
Jalan Raja Laut  
50662 Kuala Lumpur  
MALAYSIA  
Fax: 60-3-2936006

For information on the  
Scientific Program, write to:

Dr. Lester Packer  
Dept. of Molecular and Cell  
Biology  
251 Life Science Addition  
University of California  
Berkeley, California 94720  
U.S.A.  
Tel: (415) 642-1872  
Fax: (415) 642-8313

## *Schedule of Sessions*

Thursday 19 September

Arrival

Day 1: Friday, 20 September

8:30AM	-	12:00PM	Lectures - Topics in IA
2:00PM	-	5:00PM	Lectures - Topics in IB
5:00PM	-	6:00PM	Roundtable discussion #1 (Topics in IIIA)
6:00PM	-	7:00PM	Posters

Day 2: Saturday, 21 September

8:30AM	-	12:00PM	Lectures - Topics in IIA
2:00PM	-	3:30PM	Lectures - Topics in IIB
3:30PM	-	5:00PM	Roundtable discussion #2 (Topics in IIIB)

Day 3: Sunday, 22 September

Poster Discussion  
Concluding Session  
Departure

## TOPICS

- I. Lipid-Soluble Antioxidants - Natural Products and Sources;  
biological activity
  1. Vitamin E [Tocopherols and tocotrienols]
  2. Carotenoids, vitamin A, and retinoids
  3. Ubiquinone [Coenzyme Q]
  4. Lipoic Acid and other Thiol Antioxidants
  5. Flavonoids, Gossypol and Other Phenols, Ellagic Acid
  6. Antioxidants and Dietary Fats
  
- II. Lipid-Soluble Antioxidant Nutrition and Biochemistry - Aging and  
Degenerative Diseases
  - A) Epidemiological studies
  - B) Clinical applications
  
- III. Topics for Round Table Discussion of I and II:
  1. Interventions - Synthetic Antioxidants and Biological  
Response Modifiers
    - A) Antioxidant therapy to reduce free radical damage
    - B) Biological response modification
      - Arachidonic acid cascade
      - Protein kinase C and secondary messengers
      - Modulation of activities in membranes, plasma,  
lipoproteins, and other hydrophobic environments

## ***TENTATIVE LIST OF PARTICIPANTS***

### **I. Lipid-Soluble Antioxidants - Natural Products and Sources; Biological Activity**

#### **1. Vitamin E [Tocopherols and tocotrienols]**

Y.H. Chong (Kuala Lumpur): Tocotrienols

Roger Dean \* (Sydney): Cell Mediated Oxidation of Lipoproteins

Manfred Dunker (LaGrange)

G. Luc and Fruchart: Lipoprotein Oxidation

Kenji Fukuzawa (Tokushima, Japan)

Abdul Gapor (Kuala Lumpur):

G. Govil (Bombay): Physical Chemical Studies of Vitamin E

Midori Hiramatsu (Okayama):

Valerian Kagan (Sofia): Antioxidant Recycling of Chromanoxyl Radicals

Fumio Katsutani (Nagoya):

Kanki Komiyama (Tokyo): Antitumor and Antioxidant Effects of Alpha- and Gamma-Tocotrienols

Yuen May Choo (Kuala Lumpur):

**Author to be chosen: Familiar Vitamin E Deficient Syndrome**

Kalanithi Nesaretnam (Kuala Lumpur): Protective Effect of Tocotrienols on Chemically Induced Carcinogenesis in Rats

Etsuo Niki (Tokyo):

Lester Packer (Berkeley): Biological Activity of Tocopherols and Tocotrienols

Asaf Qureshi (Madison): The Multitherapeutic Properties of Cereals, Their Oils and Minor Components (Tocotrienols) in Avian and Mammalian Systems

Daniel Tan (Kuala Lumpur):

M.K. Tech (Kebangsaan):

Isao Tomita (Shizuoka): Role of Vitamin E in the Protection of Oxidative Degeneration of LDL

Fulvio Ursini (Padua): Synergistic Effect of Lipid Hydroperoxyl Radical Scavenging and Lipid Hydroperoxide Reduction in the Inhibition of Lipid Peroxidation in Biomembranes

Takanori Yokota (Tokushima):

Susumu Yukawa (Yokohama): Lipoprotein Metabolism

Prapon Wilairat (Bangkok): Hypocholesterolemic Effect of Vitamin E

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\* Underlined names signify speakers

Lian-zhen Zhu (Beijing): Difference of Antioxidant Effect Between Vitamin E and Selenium

## 2. Carotenoids, vitamin A, and retinoids

Louise Canfield (Tucson): Metabolism of Carotenoids by Enzymes of Oxygen Metabolism

T.P.A. Devasagayam (Bombay): Synthetic Carotenoids: Casorubins and Dicarboxyl Polyenes as Singlet Oxygen Quenchers

M. Nishino (Tokyo): The Anti-Tumor and Anti-Tumor Promoting Activity of  $\beta$ - and  $\alpha$ -Carotene

James A. Olson (Ames): Vitamin A and Carotenoids

Helmut Sies (Dusseldorf): Vitamin E, Carotenoids, and the Glutathione System

Pablo A. Scolnik (Wilmington): Biochemistry and Molecular Genetics of Carotenoids in Bacteria, Fungi, and Plants. Applications to Xerophthalmia

## 3. Ubiquinone [Coenzyme Q]

**Author to be chosen:** Ubiquinone<sub>10</sub> (Coenzyme Q<sub>10</sub>)

Hisashi Kawasaki (Hiroshima): Lipid-soluble Antioxidants (CoQ and Vitamin E) and Prevention of Tissue Damage

Kiyozou Morita (Jikei)

Hirose Nakasawa (Tokai)

Donald Reed (Corvallis): Chemically Induced Alterations in Vitamin E Levels In Vitro and In Vivo

Roland Stocker (Sydney): Ubiquinol Antioxidant Actions

Shimichi Takaki (Osaka)

Nabaru Yamasaki (Japan)

Christine Winterborne (Christ Church)

## 4. Lipoic Acid and Other Thiol Antioxidants

Jurgen Fuchs (Frankfurt)

Lester Packer (Berkeley)

C. Channa Reddy (College Park)

Helmut Sies (Dusseldorf)

Elena Serbinova (Berkeley)

## 5. Flavonoids, Gossypol and Other Phenols, Ellagic Acid

Wolf Bors (Munich): Rate Constants for Antioxidant Activity and Use of the Crocin Assay

H.M. Dani (Chandigarh): Inhibition of Lipid Peroxidation and Microsomal Degranulation by Plant Flavonoids as an Index to their Anticarcinogenic Potentials

Nagaratnam P. Das (Singapore): Studies on Flavonoids and Related Compounds as Antioxidants in Food

Barry Halliwell (London)

Lawrence Machlin (Nutley)

Peter Maybry (Austin): ~~OR~~ John Harborne (Reading)

Toshihiko Osawa (Nagoya): Plant Phenolic Antioxidants and Antimutagens

## 6. Antioxidants and Dietary Fats

### *Nutrition of Vitamin E and Dietary Fats*

Regine Kahl (Gottingen): Butylated Hydroxytoluene Toxicology

O. Korver (Vlaardingen): Plant Oils - Nutrition and Safety

Sompool Kritalugsana (Bangkok)

Barbara Pence (Lubbock): Dietary Fat Effects on Antioxidant Status in Target Tissues

Michihiro Sugano (Kyushu): Nutrition of Trienols and Lipid Metabolism

Michael Wargovich (Houston): Naturally Occurring Lipid-Soluble Organosulfur Compounds from Garlic: Chemoprevention and Radioprotective Effects in Animals

## II. Lipid-Soluble Antioxidant Nutrition and Biochemistry-Aging and Degenerative Diseases

### A. Epidemiological studies

Nubia Munoz: Intervention Trials with Vitamins for Oesophageal Cancer

Gerald Combs (Ithaca, NY): Nutrition and Cancer in Mainland China

Fred Gey (Bern): Essential Antioxidants and Stomach Cancer

Hans Stich (Vancouver): Anti-Cancer Aspects of Antioxidant Therapy in Buccal Cancer (Beetle Nut Chewers)

Maitree Suttajit (Bangkok): Vitamin Status in Malaria

## B. Clinical applications

Suvit Areekul and Yupin Boonme (Bangkok): Catalase Cells of Mice Infected with *Plasmodium*

Faik Atroschi (Helsinki): Palm Oil Vitamin E Effects in Hypercholesterinemia

Jharna Bhattacharjee (Calcutta): Erythrocytic GSH Level and Stability in *Plasmodium Vivax* Malaria

H.J. Bremer (Heidelberg): African Studies on Nutrition and Pediatric Disorders

Udom Chanharaksri (Bangkok): Platelet in Thalassemia

B.S. Das (Orissa): Plasma Lipid Peroxidation in *P. Falciparum* Malaria

U.N. Das (Hyderabad): Anti-Cancer Effects of Cis-Unsaturated Fatty Acids Both in vitro and in vivo

Jurgen Fuchs (Frankfurt): Vitamin E in Dermatology

Thiradyuh Glinsukon (Bangkok): Hepatic Lipid Peroxidation in Ethanol Intoxication

Michael Golden (Kingston, Jamaica): Free Radicals and Antioxidants in Kwashiorkor

N.H. Hunt (Sydney): Free Radicals and Antioxidants in Malaria

M. Li (Canton): Reactive Oxygen Species in Mice Infected or Immunized with *Plasmodium berghei*

M. Li (Canton): Kinetic Change of Amount of Malonyldialdehyde (MDA) in Sera of Mice Infected With *Plasmodium Berghei* and its Relationship With Parasitemia and Anemia

Maruyama (Japan): AntiCancer Effects of Tocotrienols

David Mueller (London): Vitamin E Deficiency and the Nervous System

Sunan Nakornchai (Bangkok): Oxygen Free Radicals in Malaria

Thomas Odiambo (Nairobi) - Insect Physiology and Interventions

Gabriel Ogunmola (Ibadan): Human Glucose 6-Phosphatedehydrogenase Deficiency, Erythrocyte Oxidant Stress, and Malaria - Antioxidant Interventions

Phisit Phanthumachinda (Bangkok):

Wannee Rojanapo (Bangkok): Lipid Peroxidation and Cancer

L. Salako (Ibadan) - Pharmacological Interventions in Malaria

**Author to be chosen:** Lipid Peroxidation and Cancer

Kamp Sriwatanakul (Bangkok): Tissue Damage in Paraquat Poisoning

B. Stavrich (Ontario): Flavonoids in Foods: Their Significance for Nutrition and Health

**Author to be chosen:** Tissue Pathology

M.K. Teoh (Kuala Lumpur): Effects of Tocotrienols (Palm Vitee) on Patients



with Peripheral Vascular Disease

Chaivat Toskulkao (Bangkok): Hepatic Lipid Peroxidation and Calcium Accumulation in Alcohol and Aflatoxin Hepatotoxicity

Tuomas Westermarck (Helsinki): Antioxidant Therapy in Neurological Disorders

Kunio Yagi (Gifu): Estrogen Therapy

Toshikawa Yoshikawa (Kyoto): Antioxidant Therapy in Ischemia Reperfusion Injury

Yongyuth Yuthavong (Bangkok): Oxidative Mechanism of Action of Ginghaosu: A New Antimalarial

### III. Topics for Round Table Discussion of I and II:

#### 1. Interventions - Synthetic Antioxidants and Biological Response Modifiers

A. Antioxidant therapy to decrease free radical damage  
Identification of promising antioxidants for pre-clinical trials.

B. Biological response modification of lipid-soluble antioxidants  
Arachidonic acid cascade, protein kinase C, secondary messengers,  
modulation of activities in membranes, lipoproteins, and other hydrophobic environments

Angelo Azzi (Bern): Vitamin E and PKC Regulation

Alvin C. Chan (Canada): Vitamin E and the Arachidonic Acid Cascade

Nobuhiko Shibata (Osaka): Highly Purified Elcosapentaenoic Acid Attenuates Tissue Damage as well as Ventricular Arrhythmia in Experimental Myocardial Infarction